



DEPARTMENT OF ENERGY

10 CFR Part 430

[EERE-2022-BT-STD-0017]

RIN 1904-AF41

Energy Conservation Program: Energy Conservation Standards for Miscellaneous Gas Products

AGENCY: Office of Energy Efficiency and Renewable Energy, Department of Energy.

ACTION: Request for information.

SUMMARY: The U.S. Department of Energy (“DOE” or “the Department”) is initiating an effort to evaluate the potential for energy conservation standards for consumer miscellaneous gas products. DOE published a proposed coverage determination for these products in the *Federal Register* on February 7, 2022. This request for information (“RFI”) solicits information from the public to help DOE determine whether potential standards for miscellaneous gas products would result in significant energy savings and whether such standards would be technologically feasible and economically justified, information which will prove useful in the event DOE moves forward with a final coverage determination. As part of this RFI and to aid in the Department’s evaluation, DOE seeks comment on the market for these products and technologies to improve their energy efficiency or reduce their energy consumption. DOE also welcomes written comments from the public on any subject within the scope of this document (including topics not specifically raised), as well as the submission of data and other relevant information.

DATES: Written comments and information are requested and will be accepted on or before **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

ADDRESSES: Interested persons are encouraged to submit comments using the Federal eRulemaking Portal at *www.regulations.gov*, under docket number EERE–2022–BT–STD-0017. Follow the instructions for submitting comments. Alternatively, interested persons may submit comments, identified by docket number EERE–2022–BT–STD-0017 and/or RIN 1904-AF41, by any of the following methods:

(1) *Email:* *MscGasProds2022STD0017@ee.doe.gov*. Include docket number EERE–2022–BT–STD-0017 and/or RIN 1904-AF41 in the subject line of the message.

(2) *Postal Mail:* Appliance and Equipment Standards Program, U.S. Department of Energy, Building Technologies Office, Mailstop EE-5B, 1000 Independence Avenue, SW., Washington, DC, 20585-0121. Telephone: (202) 287-1445. If possible, please submit all items on a compact disc (“CD”), in which case it is not necessary to include printed copies.

(3) *Hand Delivery/Courier:* Appliance and Equipment Standards Program, U.S. Department of Energy, Building Technologies Office, 950 L’Enfant Plaza, SW., 6th Floor, Washington, DC, 20024. Telephone: (202) 287-1445. If possible, please submit all items on a CD, in which case it is not necessary to include printed copies.

No telefacsimiles (“faxes”) will be accepted. For detailed instructions on submitting comments and additional information on this process, see section III of this document.

Docket: The docket for this activity, which includes *Federal Register* notices, comments, and other supporting documents/materials, is available for review at www.regulations.gov. All documents in the docket are listed in the www.regulations.gov index. However, not all documents listed in the index may not be publicly available, such as those containing information that is exempt from public disclosure.

The docket webpage can be found at www.regulations.gov/docket/EERE-2022-BT-STD-0017. The docket webpage contains instructions on how to access all documents, including public comments, in the docket. See section III for information on how to submit comments through www.regulations.gov.

FOR FURTHER INFORMATION CONTACT: Ms. Julia Hegarty, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Building Technologies Office, EE-5B, 1000 Independence Avenue, SW., Washington, DC, 20585-0121. Telephone: (240) 597-6737. E-mail: ApplianceStandardsQuestions@ee.doe.gov.

Mr. Eric Stas, U.S. Department of Energy, Office of the General Counsel, GC-33, 1000 Independence Avenue, SW., Washington, DC 20585-0121. Telephone: (202) 586-5827. E-mail: Eric.Stas@hq.doe.gov.

For further information on how to submit a comment, or review other public comments and the docket, contact the Appliance and Equipment Standards Program staff at (202) 287-1445 or by e-mail: ApplianceStandardsQuestions@ee.doe.gov.

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I. Introduction

A. Authority and Background

The Energy Policy and Conservation Act, as amended (“EPCA”),¹ Pub. L. 94-163 (42 U.S.C. 6291-6317, as codified) authorizes DOE to regulate the energy efficiency of a number of consumer products and certain industrial equipment. Title III, Part B² of

¹ All references to EPCA in this document refer to the statute as amended through the Energy Act of 2020, Pub. L. 116-260 (Dec. 27, 2020), which reflects the last statutory amendments that impact Parts A and A-1 of EPCA.

² For editorial reasons, upon codification in the U.S. Code, Part B was redesignated Part A.

EPCA established the Energy Conservation Program for Consumer Products Other Than Automobiles. (42 U.S.C. 6291-6309)

The energy conservation program under EPCA consists essentially of four parts: (1) testing, (2) labeling, (3) Federal energy conservation standards, and (4) certification and enforcement procedures. Relevant provisions of EPCA specifically include definitions (42 U.S.C. 6291), test procedures (42 U.S.C. 6293), labeling provisions (42 U.S.C. 6294), energy conservation standards (42 U.S.C. 6295), and the authority to require information and reports from manufacturers (42 U.S.C. 6296).

In addition to specifying a list of covered residential products and commercial/industrial equipment, EPCA, as amended, contains provisions that enable the Secretary of Energy to classify additional types of consumer products as covered products. (42 U.S.C. 6292(a)(20)) Specifically, for a given product to be classified as a covered product, the Secretary must determine that:

(1) Classifying the product as a covered product is necessary or appropriate for carrying out the purposes of EPCA; and

(2) The average annual per-household energy use by products of such type is likely to exceed 100 kilowatt-hours (“kWh”) (or its British thermal unit (“Btu”) equivalent) per year.

(42 U.S.C. 6292(b)(1)(A) and (B))

The Secretary may prescribe an energy conservation standard pursuant to 42 U.S.C. 6292(a)(20) and (b)(1), provided that such standard meets the requirements of 42 U.S.C. 6295(o) and (p), and the Secretary must also determine that:

(1) The average per-household energy use within the United States of the type (or class) of products has exceeded 150 kWh (or its Btu equivalent) per household for any prior 12-month period;

(2) The aggregate 12-month household energy use of the type (or class) of products has exceeded 4.2 terawatt-hours³ (or its Btu equivalent);

(3) Substantial improvement in energy efficiency of products in such type (or class) is technologically feasible; and

(4) Application of a labeling rule under 42 U.S.C. 6294 is unlikely to be sufficient to induce manufacturers to produce, and consumers and other persons to purchase, covered products of such type (or class) that achieve the maximum energy efficiency that is technologically feasible and economically justified.

(42 U.S.C. 6295(l)(1)(A)–(D))

On February 7, 2022, DOE published in the *Federal Register* a notice of proposed determination (“NOPD”) of miscellaneous gas products (“MGPs”) as a covered consumer product (“February 2022 NOPD”). 87 FR 6786. As proposed in the February 2022 NOPD, “miscellaneous gas products” are comprised of decorative hearths and

³ A terawatt is a unit of power equal to one trillion watts.

outdoor heaters, the definitions for which are discussed in section II.A of this document. In the February 2022 NOPD, DOE presented its preliminary findings relating to the energy use of MGPs to determine whether they could be classified as a type of covered product under the requirements of 42 U.S.C. 6292(b)(1)(A) and (B). 87 FR 6786, 6790–9792 (Feb. 7, 2022). DOE also stated that it would determine if MGPs satisfy the provisions of 42 U.S.C. 6295(l)(1), if DOE proceeds with a rulemaking to establish energy conservation standards for said products. *Id.* at 87 FR 6788.

DOE must follow specific statutory criteria for prescribing new or amended energy conservation standards for covered products. Any new or amended standard for a covered product must be designed to achieve the maximum improvement in energy efficiency that the Secretary of Energy determines is technologically feasible and economically justified. (42 U.S.C. 6295(o)(2)(A) and (3)(B)) Furthermore, DOE may not adopt any standard that would not result in the significant conservation of energy. (42 U.S.C. 6295(o)(3))

Moreover, DOE may not prescribe a standard: (1) for certain products if no test procedure has been established for the product, or (2) if DOE determines by rule that the standard is not technologically feasible or economically justified. (42 U.S.C. 6295(o)(3)(A)–(B)) In deciding whether a proposed standard is economically justified, DOE must determine whether the benefits of the standard exceed its burdens. (42 U.S.C. 6295(o)(2)(B)(i)) DOE must make this determination after receiving views and comments on the proposed standard, and by considering, to the greatest extent practicable, the following seven factors:

(1) The economic impact of the standard on the manufacturers and consumers of

the products subject to the standard;

(2) The savings in operating costs throughout the estimated average life of the covered products in the type (or class) compared to any increase in the price, initial charges, or maintenance expenses for the covered products that are likely to result from the standard;

(3) The total projected amount of energy (or as applicable, water) savings likely to result directly from the standard;

(4) Any lessening of the utility or the performance of the products likely to result from the standard;

(5) The impact of any lessening of competition, as determined in writing by the Attorney General, that is likely to result from the standard;

(6) The need for national energy and water conservation; and

(7) Other factors the Secretary of Energy considers relevant.

(42 U.S.C. 6295(o)(2)(B)(i)(I)–(VII))

Further, EPCA establishes a rebuttable presumption that a standard is economically justified if the Secretary finds that the additional cost to the consumer of purchasing a product complying with an energy conservation standard level will be less than three times the value of the energy savings during the first year that the consumer will receive as a result of the standard, as calculated under the applicable test procedure.

(42 U.S.C. 6295(o)(2)(B)(iii))

EPCA also contains what is known as an “anti-backsliding” provision, which prevents the Secretary from prescribing any amended standard that either increases the maximum allowable energy use or decreases the minimum required energy efficiency of a covered product. (42 U.S.C. 6295(o)(1)) Also, the Secretary may not prescribe an amended or new standard if interested persons have established by a preponderance of

the evidence that the standard is likely to result in the unavailability in the United States in any covered product type (or class) of performance characteristics (including reliability), features, sizes, capacities, and volumes that are substantially the same as those generally available in the United States. (42 U.S.C. 6295(o)(4))

Additionally, EPCA specifies requirements when promulgating an energy conservation standard for a covered product that has two or more subcategories that warrant separate product classes and energy conservation standards with a level of energy efficiency or energy use either higher or lower than that which would apply for such group of covered products which have the same function or intended use. DOE must specify a different standard level for a type or class of products that has the same function or intended use, if DOE determines that products within such group: (A) consume a different kind of energy from that consumed by other covered products within such type (or class); or (B) have a capacity or other performance-related feature which other products within such type (or class) do not have and such feature justifies a higher or lower standard. (42 U.S.C. 6295(q)(1)) In determining whether capacity or another performance-related feature justifies a different standard for a group of products, DOE must consider such factors as the utility to the consumer of the feature and other factors DOE deems appropriate. *Id.* Any rule prescribing such a standard must include an explanation of the basis on which such higher or lower level was established. (42 U.S.C. 6295(q)(2))

Finally, pursuant to the amendments contained in the Energy Independence and Security Act of 2007 (“EISA 2007”), Pub. L. 110-140, any final rule for new or amended energy conservation standards promulgated after July 1, 2010, is required to address standby mode and off mode energy use. (42 U.S.C. 6295(gg)(3)) Specifically, when

DOE adopts a standard for a covered product after that date, it must, if justified by the criteria for adoption of standards under EPCA (42 U.S.C. 6295(o)), incorporate standby mode and off mode energy use into a single standard, or, if that is not feasible, adopt a separate standard for such energy use for that product. (42 U.S.C. 6295(gg)(3)(A)–(B))

Federal energy efficiency requirements for covered products established under EPCA generally supersede State laws and regulations concerning energy conservation testing, labeling, and standards. (42 U.S.C. 6297(a)–(c)) DOE may, however, grant waivers of Federal preemption in limited circumstances for particular State laws or regulations, in accordance with the procedures and other provisions of EPCA. (42 U.S.C. 6297(d))

There are not currently any energy conservation standards for MGPs, but as discussed, DOE has proposed to determine that MGPs are a covered product. 87 FR 6786 (Feb. 7, 2022). The February 2022 NOPD addresses MGPs, which are consumer products comprising: (1) Those hearth products that are not direct heating equipment (“DHE”) (*i.e.*, those hearth products that are indoor or outdoor decorative hearth products), and (2) outdoor heaters. *Id.* at 87 FR 6788. Previous rulemaking history related to these products is discussed in section II of the February 2022 NOPD. *Id.* at 87 FR 6787–6788. Were DOE to ultimately determine that MGPs are a covered product, DOE would then consider whether to establish energy conservation standards for MGPs subject to the criteria in EPCA.

DOE is publishing this RFI to collect data and information to inform its decision consistent with its obligations under EPCA.

B. Rulemaking Process

As discussed previously, DOE must follow specific statutory criteria for prescribing new or amended energy conservation standards for covered products. EPCA requires that any new or amended energy conservation standard prescribed by the Secretary of Energy (“Secretary”) shall be designed to achieve the maximum improvement in energy efficiency (or for certain products specified by EPCA, water efficiency) that is technologically feasible and economically justified. (42 U.S.C. 6295(o)(2)(A)) Furthermore, DOE may not adopt any standard that would not result in the significant conservation of energy. (42 U.S.C. 6295(o)(3)(B))

Particularly in light of the climate crisis, the significance of energy savings offered by a new or amended energy conservation standard cannot be determined without knowledge of the specific circumstances surrounding a given rulemaking.⁴ For example, the United States has now rejoined the Paris Agreement on February 19, 2021. As part of that agreement, the United States has committed to reducing greenhouse gas (“GHG”) emissions in order to limit the rise in mean global temperature.⁵ As such, energy savings that reduce GHG emissions have taken on greater importance. Additionally, some covered products and equipment have most of their energy consumption occur during periods of peak energy demand. The impacts of these products on the energy infrastructure can be more pronounced than products with relatively constant demand. In evaluating the significance of energy savings, DOE considers differences in primary energy and FFC effects for different covered products and equipment when determining whether energy savings are significant. Primary energy and FFC effects include the

⁴Procedures, Interpretations, and Policies for Consideration in New or Revised Energy Conservation Standards and Test Procedures for Consumer Products and Commercial/Industrial Equipment, 86 FR 70892, 70901 (Dec. 13, 2021).

⁵ See Executive Order 14008, “Tackling the Climate Crisis at Home and Abroad,” 86 FR 7619 (Feb. 1, 2021).

energy consumed in electricity production (depending on load shape), in distribution and transmission, and in extracting, processing, and transporting primary fuels (*i.e.*, coal, natural gas, petroleum fuels), and thus present a more complete picture of the impacts of energy conservation standards. Accordingly, DOE evaluates the significance of energy savings on a case-by-case basis.

To determine whether a proposed new or amended energy conservation standard is economically justified, EPCA requires that DOE determine whether the benefits of the standard exceed its burdens by considering, to the greatest extent practicable, the following seven factors:

- (1) The economic impact of the standard on the manufacturers and consumers of the affected products subject to the standard;
- (2) The savings in operating costs throughout the estimated average life of the covered product in the type (or class) compared to any increases in the price, initial charges, or maintenance expenses for the covered products that are likely to result from the standard;
- (3) The total projected amount of energy (or as applicable, water) savings likely to result directly from the standard;
- (4) Any lessening of the utility or the performance of the products likely to result directly from the standard;
- (5) The impact of any lessening of competition, as determined in writing by the Attorney General, that is likely to result from the standard;

(6) The need for national energy and water conservation; and

(7) Other factors the Secretary considers relevant.

(42 U.S.C. 6295(o)(2)(B)(i)(I)–(VII))

DOE fulfills these and other applicable requirements by conducting a series of analyses throughout the rulemaking process. Table I.1 shows the individual analyses that are performed to satisfy each of the requirements within EPCA.

Table I.1 EPCA Requirements and Corresponding DOE Analysis

EPCA Requirement	Corresponding DOE Analysis
Significant Energy Savings	<ul style="list-style-type: none"> • Shipments Analysis • National Impact Analysis • Energy and Water Use Analysis
Technological Feasibility	<ul style="list-style-type: none"> • Market and Technology Assessment • Screening Analysis • Engineering Analysis
Economic Justification:	
1. Economic Impact on Manufacturers and Consumers	<ul style="list-style-type: none"> • Manufacturer Impact Analysis • Life-Cycle Cost and Payback Period Analysis • Life-Cycle Cost Subgroup Analysis • Shipments Analysis
2. Lifetime Operating Cost Savings Compared to Increased Cost for the Product	<ul style="list-style-type: none"> • Markups for Product Price Analysis • Energy and Water Use Analysis • Life-Cycle Cost and Payback Period Analysis
3. Total Projected Energy Savings	<ul style="list-style-type: none"> • Shipments Analysis • National Impact Analysis
4. Impact on Utility or Performance	<ul style="list-style-type: none"> • Screening Analysis • Engineering Analysis
5. Impact of Any Lessening of Competition	<ul style="list-style-type: none"> • Manufacturer Impact Analysis
6. Need for National Energy and Water Conservation	<ul style="list-style-type: none"> • Shipments Analysis • National Impact Analysis
7. Other Factors the Secretary Considers Relevant	<ul style="list-style-type: none"> • Employment Impact Analysis • Utility Impact Analysis • Emissions Analysis • Monetization of Emission Reductions Benefits⁶ • Regulatory Impact Analysis

As detailed throughout this RFI, DOE is publishing this document seeking input and data from interested parties to aid in the development of the technical analyses on

⁶ On March 16, 2022, the Fifth Circuit Court of Appeals (No. 22-30087) granted the Federal government’s emergency motion for stay pending appeal of the February 11, 2022, preliminary injunction issued in *Louisiana v. Biden*, No. 21-cv-1074-JDC-KK (W.D. La.). As a result of the Fifth Circuit’s order, the preliminary injunction is no longer in effect, pending resolution of the federal government’s appeal of that injunction or a further court order. Among other things, the preliminary injunction enjoined the defendants in that case from “adopting, employing, treating as binding, or relying upon” the interim estimates of the social cost of greenhouse gases—which were issued by the Interagency Working Group on the Social Cost of Greenhouse Gases on February 26, 2021—to monetize the benefits of reducing greenhouse gas emissions. In the absence of further intervening court orders, DOE will revert to its approach prior to the injunction and present monetized benefits where appropriate and permissible under law.

which DOE would ultimately rely to determine whether (and if so, how) to adopt energy conservation standards for consumer MGPs.

C. Deviation from Appendix A

In accordance with section 3(a) of 10 CFR part 430, subpart C, appendix A (“appendix A”), “Procedures, Interpretations, and Policies for Consideration of New or Revised Energy Conservation Standards and Test Procedures for Consumer Products and Certain Commercial/Industrial Equipment,” DOE notes that it is deviating from that appendix's provision that DOE will publish its final coverage determination prior to the initiation of any energy conservation standards rulemaking. 10 CFR part 430, subpart C, appendix A, section 5(c). DOE finds it appropriate to deviate from this step because DOE believes that providing an opportunity for comment on potential energy conservation standards prior to a final coverage determination for MGPs allows stakeholders an earlier opportunity to provide comment, information, and data that may help inform DOE's priority setting. DOE also notes that in the notice of proposed rulemaking (“NOPR”) published in the *Federal Register* on July 7, 2021, DOE proposed to amend appendix A, in relevant part, by eliminating the requirement that coverage determination rulemakings must be finalized prior to initiation of a test procedure or energy conservation standard rulemaking. 86 FR 35668, 35672. DOE explained that the coverage determination, test procedure, and energy conservation standard rulemakings are interdependent and that a coverage determination defines the product/equipment scope for which DOE can establish test procedure and energy conservation standards. It also signals that inclusion of the consumer product is necessary to carry out the purpose of EPCA (*i.e.*, to conserve energy and/or water). In order to make this determination, DOE needs to consider whether energy conservation standards can be established for the consumer product. If DOE cannot prescribe energy conservation standards that result in

significant energy savings (42 U.S.C. 6295(o)), then making a coverage determination is not necessary as it will not result in the conservation of energy. Thus, it is important that DOE be able to gather information and provide stakeholders an opportunity to comment and provide information and data pertinent to test procedure and energy conservation standard rulemakings, during the course of DOE conducting its coverage determination rulemaking. *Id.*

DOE further notes that it is deviating from that appendix's provision requiring a 75-day comment period for all pre-NOPR rulemaking documents for standards. 10 CFR part 430, subpart C, appendix A, section 6(d)(2). DOE finds it appropriate to deviate from this provision and to instead provide a 30-day comment period for this RFI. DOE believes that 30 days is sufficient time to respond to this initial rulemaking document, as DOE already requested information on the MGP market in the February 2022 NOPD. *See* 87 FR 6786, 6794-6795 (Feb. 7, 2022). Market information developed and reviewed for the February 2022 NOPD would provide the basis for responses to the requests in this RFI. A 30-day comment period will also allow DOE to review comments received in response to this document before finalizing its coverage determination, thereby assisting the Department by helping inform its decisions regarding prioritizing any potential rulemakings for MGPs in light of its other on-going rulemakings and statutory requirements.

II. Request for Information and Comments

In the following sections, DOE has identified a variety of issues on which it seeks input to aid in the development of the technical and economic analyses regarding whether establishing energy conservation standards for MGPs may be warranted.

A. Products Addressed by This Process

This RFI addresses those products that meet the definition of MGPs as proposed in the February 2022 NOPD. 87 FR 6786, 6788 (Feb. 7, 2022). More specifically, MGPs are consumer products comprising: (1) hearth products that are not DHE (*i.e.*, hearth products that are indoor or outdoor decorative hearth products) and (2) outdoor heaters. *Id.* Further, the proposed definitions of “decorative hearth product” and “outdoor heater” are as follows:

Decorative hearth product means a gas-fired appliance that:

- (1) Simulates a solid-fueled fireplace or presents a flame pattern;
- (2) Includes products designed for indoor use, outdoor use, or either indoor or outdoor use;
- (3) Is not designed to be operated with a thermostat;
- (4) For products designed for indoor use, is not designed to provide space heating to the space in which it is installed; and
- (5) For products designed for outdoor use, is not designed to provide heat proximate to the unit.

Outdoor heater means a gas-fired appliance designed for use in outdoor spaces only, and which is designed to provide heat proximate to the unit.

87 FR 6786, 6790 (Feb. 7, 2022).

DOE requests comment on whether the proposed definitions for “miscellaneous gas products,” “decorative hearth product,” and/or “outdoor heater” require any revisions, and if so, how those definitions should be revised.

DOE requests comment on whether additional product definitions are necessary to close any potential gaps in coverage between product types. DOE also seeks input on whether such products currently exist in the market or whether they are being planned for introduction.

In addition, DOE notes that this RFI does not address electric or oil-fired products, which were also not included in the February 2022 NOPD. DOE has tentatively determined that there is little opportunity for additional energy savings for these products, as they do not use standing pilot ignition systems.

B. Test Procedure

EPCA defines “energy conservation standard” as a performance standard which prescribes a minimum level of energy efficiency or a maximum quantity of energy use; or for certain enumerated covered products, including products for which the Secretary has made a determination to classify them as covered products, a design requirement. (42 U.S.C. 6291(6)) EPCA requires that test procedures used to evaluate compliance with a performance standard be reasonably designed to produce test results which measure energy efficiency, energy use, or estimated annual operating cost of a covered product

during a representative average use cycle or period of use, as determined by the Secretary, and not be unduly burdensome to conduct. (42 U.S.C. 6293(b)(3))⁷

As proposed to be defined, decorative hearth products simulate a solid-fuel fireplace and/or present an aesthetic flame pattern, and are not designed to heat the space in which they are used. Given the aesthetic nature of decorative hearth products and the subjective nature of the aesthetic value, DOE has tentatively determined that establishing a performance based-test procedure that meets the statutory criteria would not be possible. Instead, a design requirement may be better-suited to improve efficiency without impacting or altering the aesthetic appeal of these products.

Similarly, as proposed to be defined, outdoor heaters are gas-fired appliances designed for use in outdoor spaces only, and which are designed to provide heat proximate to the units. The aesthetic nature of many outdoor heaters is an important part of the value they provide, with some designs featuring a prominent flame (although others have little or no visible flame). Although the use of certain technology options may reduce the energy consumption of outdoor heaters under a performance-based standard, DOE is not currently aware of any design options that would offer significant energy savings other than removal of a standing pilot ignition system (if present). Therefore, for simplicity, DOE is tentatively considering all outdoor heaters to be in a single product class. Further, DOE expects that a design requirement may be better-

⁷ EPCA states, in relevant part, that an amended or new standard may not be adopted if a test procedure has not been established for the relevant product type or class. (42 U.S.C. 6295(o)(3)(A)) However, in certain cases, EPCA also authorizes energy conservation standards that by nature would not require a test procedure (*i.e.*, design requirements). (42 U.S.C. 6291(6)(B)) Additionally, EPCA requires use of the test procedures and criteria prescribed in 42 U.S.C. 6293, except for design standards. (42 U.S.C. 6295(s)) EPCA also states that a test procedure need not be prescribed if one cannot be designed to reasonably measure energy efficiency, energy use, water use, or annual operating cost, and not be unduly burdensome to conduct. (42 U.S.C. 6293(d)(1)) EPCA requires that a determination be published in the *Federal Register* providing justification in such case. *Id.*

suited than a performance requirement to improve efficiency without impacting or altering the aesthetic appeal of outdoor heaters.

Therefore, DOE is considering whether a prescriptive design requirement would be appropriate for MGPs. Specifically, as discussed in this section and later sections, DOE is seeking information regarding a possible design standard regarding the use of a continuously-burning pilot light in these products. Because the potential energy conservation standard being investigated at this time is a design requirement and not a performance standard (*i.e.*, minimum efficiency or maximum energy consumption), DOE is not currently planning to develop or evaluate a potential test procedure.

DOE requests comment on whether a test procedure and performance metric that meets the EPCA criteria would be feasible for decorative hearth products and/or outdoor heaters. If so, DOE requests comment on the potential performance metric(s) and testing method(s) that would be appropriate.

C. Market and Technology Assessment

The market and technology assessment that DOE routinely conducts when analyzing the impacts of a potential new or amended energy conservation standard provides information about the MGP industry that would be used in DOE's analysis throughout the rulemaking process. DOE uses qualitative and quantitative assessments to characterize the structure of the industry and market, based upon publicly-available information. The subjects addressed in this market and technology assessment include: (1) a determination of the scope of the rulemaking and product classes; (2) manufacturers and industry structure; (3) industry market shares and trends; (4) existing regulatory and non-regulatory initiatives intended to improve energy efficiency or reduce energy

consumption; (5) shipments information; and (6) technologies or design options that could improve the energy efficiency of MGPs. DOE also reviews product literature, industry publications, and company websites. Additionally, DOE considers conducting interviews with manufacturers to improve its assessment of the market and available technologies for MGPs.

1. Product Classes

When evaluating and establishing energy conservation standards, DOE may divide covered products into product classes by the type of energy used, or by capacity or other performance-related features that justify a different standard. (42 U.S.C. 6295(q)(1)) In making a determination whether a performance-related feature justifies a different standard, DOE must consider such factors as the utility of the feature to the consumer and other factors DOE deems appropriate. (*Id.*)

For MGPs, there are no energy conservation standards. As noted in section I.A of this document, DOE published a proposed determination to establish MGPs as a covered consumer product in the *Federal Register* on February 7, 2022. 87 FR 6786. If DOE issues a final determination of coverage for MGPs, as discussed in section II.A of this document, the proposed scope of coverage for MGPs would include decorative hearth products and outdoor heaters. A wide range of decorative hearth products are available on the market, including, for example, gas log sets, gas fire pits, gas stoves, and gas fireplace inserts. Decorative hearth products may be used indoors or outdoors. Outdoor heaters are gas-fired products that heat the area proximate to the heater and that are designed to be used outdoors. *Id.* at 87 FR 6788. Were DOE to propose energy conservation standards for MGPs, DOE would consider whether any type of such

products has a capacity or other performance-related feature that justifies a different standard.

DOE requests feedback on whether certain decorative hearth products and/or outdoor heaters have a capacity or other performance-related feature providing unique consumer utility that impacts energy use of the product. If so, DOE requests information and data detailing the customer utility of such a feature and the corresponding impacts on energy use that would justify separate product classes (*i.e.*, explanation for why the presence of these performance-related features would increase energy consumption).

2. Technology Assessment

In analyzing the feasibility of potential new or amended energy conservation standards, DOE uses information about existing and past technology options and working prototype designs to help identify technologies that manufacturers could use to meet and/or exceed a given set of energy conservation standards under consideration. In consultation with interested parties, DOE intends to develop a list of technologies to consider in its analysis. That analysis may include a number of the technology options DOE previously considered as part of an energy conservation standards NOPR for certain products proposed to be defined as “hearth products” published in the *Federal Register* on February 9, 2015 (“the February 2015 NOPR”), as well as technologies identified by stakeholders in response to that NOPR.⁸ 80 FR 7082. The products evaluated in the February 2015 NOPR included certain products that would be covered under the

⁸ The February 2015 NOPR was issued subsequent to publication in the *Federal Register* of a proposed determination of coverage for “hearth products.” 78 FR 79638 (Dec. 31, 2013; “December 2013 NOPD”). In the December 2013 NOPD, DOE proposed to define “hearth product” as a gas-fired appliance that simulates a solid-fueled fireplace or presents a flame pattern (for aesthetics or other purpose) and that may provide space heating directly to the space in which it is installed. *Id.* at 78 FR 79640. On March 31, 2017, DOE withdrew the December 2013 NOPD and the February 2015 NOPR in the bi-annual publication of the DOE Regulatory Agenda. 82 FR 40270, 40274 (August 24, 2017).

currently proposed definition of MGPs. *Id.* Certain of those prior technology options that DOE identified in the February 2015 NOPR (*see* 80 FR 7082, 7095 (Feb. 9, 2015)) and that may be applicable to MGPs appear in Table II.1 of this document. In addition to the technology options previously identified by DOE, stakeholders identified “on demand” pilot ignition systems as a potential alternative to traditional standing pilot ignitions.⁹ The February 2015 NOPR covered hearth heaters in addition to decorative hearths and outdoor hearths, and, therefore, some of the technology options considered in that analysis may not be appropriate for MGPs. Additionally, as discussed in section 0 of this document, DOE is currently considering whether a prescriptive design requirement would be appropriate for MGPs, and, therefore, some technologies considered in the February 2015 NOPR analysis were not included in Table II.1 of this document because they related to the product’s active mode power consumption.

Table II.1 Potential Technology Options

Optimized air-to-fuel ratio
Optimized burner port design
Improved simulated log design
Improved pan burner media/bead type
Reflective walls and/or other components inside combustion zone
Electronic ignition

DOE seeks information on the technologies listed in Table II.1 of this document regarding their applicability to the current market and how these technologies might potentially impact the energy efficiency and/or energy use of decorative hearth products and outdoor heaters. DOE also seeks information on how these technologies may have changed since they were considered in the February 2015 NOPR analysis. Specifically,

⁹ An “on demand” ignition system includes a pilot light that burns continuously as long as the main burner is operated at least once within a pre-programmed period of time (*e.g.*, 7 days) and a control system that shuts off the pilot light if the main burner is not operated within the preset time period.

DOE seeks information on the range of efficiencies or performance characteristics that are currently available for each technology option.

DOE also seeks comment on any other technology options that it should consider for inclusion in its analysis, such as “on demand” pilot ignition systems, and whether these technologies might impact product features or consumer utility of decorative hearth products and outdoor heaters.

D. Screening Analysis

The purpose of the screening analysis is to further evaluate the technologies with the potential to improve equipment efficiency to determine which technologies should be eliminated from further consideration and which ones should proceed to the engineering analysis for further consideration in the energy conservation standards rulemaking.

DOE determines whether to eliminate certain technology options from further consideration based on the following five screening criteria:

- (1) *Technological feasibility.* Technologies that are not incorporated in commercial products or in working prototypes will not be considered further.
- (2) *Practicability to manufacture, install, and service.* If it is determined that mass production and reliable installation and servicing of a technology in commercial products could not be achieved on the scale necessary to serve the relevant market at the time of the projected compliance date of the standard, then that technology will not be considered further.

(3) *Impacts on product utility or product availability.* If it is determined that a technology would have significant adverse impact on the utility of the product to significant subgroups of consumers, or would result in the unavailability of any covered product type with performance characteristics (including reliability), features, sizes, capacities, and volumes that are substantially the same as products generally available in the United States at the time, it will not be considered further.

(4) *Adverse impacts on health or safety.* If it is determined that a technology would have significant adverse impacts on health or safety, it will not be considered further.

(5) *Unique-Pathway Proprietary Technologies.* If a design option utilizes proprietary technology that represents a unique pathway to achieving a given efficiency level, that technology will not be considered further due to the potential for monopolistic concerns.

10 CFR part 430, subpart C, appendix A, sections 6(b)(3) and 7(b).

Technology options identified in the technology assessment are evaluated against these criteria using DOE analyses and inputs from interested parties (*e.g.*, manufacturers, trade organizations, and energy efficiency advocates). Technologies that pass through the screening analysis are referred to as “design options” in the engineering analysis. Technology options that fail to meet one or more of the five criteria are eliminated from further consideration.

DOE requests feedback on what impact, if any, the five screening criteria described in this section would have when applied to each of the technology options listed in Table II.1 of this document pertaining to decorative hearth products and outdoor heaters. Similarly, DOE seeks information regarding the effect these same criteria would have when applied to any other technology options not already identified in this document with respect to their potential use in decorative hearth products and/or outdoor heaters.

E. Engineering Analysis

The purpose of the engineering analysis is to establish the relationship between the efficiency (or energy use) and cost of consumer MGPs. There are two elements to consider in the engineering analysis: (1) the selection of efficiency levels to analyze (*i.e.*, the “efficiency analysis”) and (2) the determination of product cost at each efficiency level (*i.e.*, the “cost analysis”). In determining the performance of higher-efficiency products, DOE considers technologies and design option combinations not eliminated by the screening analysis. For each product class, DOE estimates the baseline cost (*i.e.*, the manufacturer production cost (“MPC”), as well as the incremental cost for the product at efficiency levels above the baseline. The output of the engineering analysis is a set of cost-efficiency “curves” that are used in downstream analyses (*i.e.*, the life-cycle cost (“LCC”) and payback period (“PBP”) analyses and the national impact analysis (“NIA”). The following sections provide further detail on DOE’s engineering analysis and seek public input on specific issues pertinent to consumer miscellaneous gas products, the subject of this rulemaking.

In the analysis accompanying the February 2015 NOPR, which included consideration of decorative hearth products, DOE focused its engineering analysis on the

impacts of a prescriptive design requirement that would remove the standing pilot ignition system and replace it with a system that does not use a continuously-burning pilot. 80 FR 7082, 7097 (Feb. 9, 2015).

In the February 2015 NOPR analysis for hearth products, which included decorative hearths and outdoor hearths, as well as hearth heaters (which DOE is considering in a separate rulemaking proceeding as a category of DHE products), DOE used the design option approach (described further in section II.E.1 of this document) by selecting hearth models that represented a range of hearth configurations (*e.g.*, vented fireplaces, vented fireplace inserts, unvented fireplace inserts, vented gas log sets, and unvented gas log sets). In light of the analytical focus on a prescriptive design requirement related to standby mode energy consumption, representative models were chosen that would allow a direct comparison between standing pilot and electronic ignition systems. DOE then used the cost assessment approach by gathering additional information using reverse-engineering methodologies, product information from manufacturer catalogs and manuals, and discussions with manufacturers and other experts on hearth products. *Id.* at 80 FR 7096. DOE assumed that, should standing pilot ignitions be disallowed, manufacturers would convert standing pilot models to electronic ignition models rather than match-lit models in order to provide the same level of safety, comfort, and functionality. *Id.* DOE expects that a similar approach to the engineering analysis would be appropriate for MGPs.

DOE seeks comment on its anticipated general approach to the engineering analysis and whether the approach used in the analysis for the February 2015 NOPR would be appropriate for an analysis of all MGPs.

1. Efficiency Analysis

DOE typically uses one of two approaches to develop energy efficiency levels for the engineering analysis: (1) relying on observed efficiency levels in the market (*i.e.*, the efficiency-level approach), or (2) determining the incremental efficiency improvements associated with incorporating specific design options to a baseline model (*i.e.*, the design-option approach). Using the efficiency-level approach, the efficiency levels established for the analysis are determined based on the market distribution of existing products (in other words, based on the range of efficiencies and efficiency level “clusters” that already exist on the market). Using the design-option approach, the efficiency levels established for the analysis are determined through detailed engineering calculations and/or computer simulations of the efficiency improvements from implementing specific design options that have been identified in the technology assessment. DOE may also rely on a combination of these two approaches. For example, the efficiency-level approach (based on actual products on the market) may be extended using the design-option approach to interpolate to define “gap fill” levels (to bridge large gaps between other identified efficiency levels) and/or to extrapolate to the max-tech level (particularly in cases where the max-tech level exceeds the maximum efficiency level currently available on the market).

As stated previously, in the analysis for the February 2015 NOPR, DOE only considered prescriptive requirements. In that analysis, DOE identified electronic ignition as a design option that would be applicable to hearth products in standby mode. 80 FR 7082, 7097–7098 (Feb. 9, 2015). The prior analysis only considered as an energy conservation standard a design requirement that would disallow the use of constant-burning pilot lights. DOE expects that a similar approach considering a design requirement may be appropriate for MGPs in the current rulemaking.

DOE requests feedback on whether any case exists of a product with a constant-burning pilot for which the ignition system cannot be replaced with an alternative ignition system that does not utilize a constant-burning pilot, and if so, what the specific situations are in which this would occur. DOE also seeks information as to whether other design options could be a viable approach to reducing the energy consumption of decorative hearth products and outdoor heaters, as well as where there are limitations on the use of certain design options. DOE requests feedback on any other existing technologies that would be technologically feasible, economically justified, and would result in significant energy consumption savings for miscellaneous gas products.

For each product class, DOE selects a baseline model as a reference point against which any changes resulting from potential new or amended energy conservation standards can be measured. The baseline model in each product class represents the characteristics of common or typical products in that class (*e.g.*, capacity, physical size). Typically, a baseline model is one that just meets the current minimum energy conservation standards, or if no standards are in place (as is the case for miscellaneous gas products), the baseline is generally the most common or least-efficient units on the market that provides basic consumer utility. In the February 2015 NOPR, DOE tentatively determined that the standing pilot ignition system represents the baseline design in terms of energy consumption for hearth products, to the extent such products were evaluated. 80 FR 7082, 7098 (Feb. 9, 2015).

DOE requests feedback on the appropriate baseline efficiency levels and/or designs for decorative hearth products and outdoor heaters.

As part of DOE's analysis, the maximum available efficiency level is the highest-efficiency unit currently available on the market. DOE defines a "max-tech" efficiency level to represent the theoretical maximum possible efficiency if all available design options are incorporated in a model. In applying these design options, DOE would only include those that are compatible with each other and that when combined would represent the theoretical maximum possible efficiency. In many cases, the max-tech efficiency level differs from the maximum available efficiency level, because the max-tech design options are not economically feasible to implement.

Although MGPs do not currently have energy conservation standards, and test data for both decorative hearth products and outdoor heaters are limited, DOE expects that having electronic ignition (including intermittent pilot ignition systems) would necessarily result in a lower energy consumption than if electronic ignition is not present. In the February 2015 NOPR, electronic ignition was identified as providing the maximum reduction in energy use possible. 80 FR 7082, 7098 (Feb. 9, 2015). DOE used this as the max-tech design option, as it was unaware of any other design options on the market that would substantially reduce the energy consumption of hearth products during standby operation. *Id.*

DOE seeks input on the max-tech efficiency level and/or design for decorative hearth products and outdoor heaters. Additionally, for any max-tech efficiency level and/or design identified by stakeholders, DOE also seeks input on whether such a max-tech efficiency level would be appropriate and technologically feasible for potential consideration as possible energy conservation standards for decorative hearth products and outdoor heaters, and if not, why not.

2. Cost Analysis

The cost analysis portion of the engineering analysis is conducted using one or a combination of cost approaches. The selection of cost approach depends on a suite of factors, including availability and reliability of public information, characteristics of the regulated product, and the availability and timeliness of purchasing the product on the market. The cost approaches are summarized as follows:

- *Physical teardowns:* Under this approach, DOE physically dismantles a commercially-available product, component-by-component, to develop a detailed bill of materials (“BOM”) for the product.
- *Catalog teardowns:* In lieu of physically deconstructing a product, DOE identifies each component using parts diagrams (available from manufacturer websites or appliance repair websites, for example) to develop the BOM for the product.
- *Price surveys:* If neither a physical nor catalog teardown is feasible (e.g., tightly integrated products such as fluorescent lamps, which are infeasible to disassemble and for which parts diagrams are unavailable) or cost-prohibitive and otherwise impractical (e.g., large commercial boilers), DOE conducts price surveys using publicly-available pricing data published on major online retailer websites and/or by soliciting prices from distributors and other commercial channels.

In the analysis for the February 2015 NOPR, DOE performed physical teardowns to generate a BOM for each product torn down. 80 FR 7082, 7098 (Feb. 9, 2015). DOE selected products for the physical teardown analysis that represented the most common configurations of products being analyzed, including some products that are now being

evaluated as MGPs. In the analysis for the February 2015 NOPR, DOE conducted 14 physical teardowns to create a detailed BOM for each product type or style. *Id.*

The resulting BOM provided the basis for the manufacturer production cost (“MPC”) estimates. DOE converted the materials and components in the BOM to dollar values based on the price of materials, average labor rates associated with manufacturing and assembly and the cost of overhead and depreciation. DOE then applied a cost multiplier (the manufacturer markup) to convert the MPC to manufacturer selling price (“MSP”). The manufacturer markup accounts for non-production costs (*i.e.*, selling, general, and administrative expenses, research and development, and interest), along with profit. The resulting MSP is the price at which the manufacturer distributes a unit into commerce. The MPC and MSP were calculated for products utilizing standing pilot ignition systems and products utilizing intermittent pilot ignition systems. 80 FR 7082, 7098 (Feb. 9, 2015).

As described at the beginning of this section, the main outputs of the engineering analysis are cost-efficiency relationships that describe the estimated increases in MPC associated with higher-efficiency products for the analyzed product classes. For the February 2015 NOPR, DOE developed the cost-efficiency relationships by estimating the efficiency improvements and costs associated with incorporating an intermittent pilot ignition (*i.e.*, an electronic ignition) into the assumed baseline model for each hearth type. *Id.*

DOE requests feedback on whether, and if so how, manufacturers would incorporate the technology options listed in Table II.1 of this document to increase energy efficiency and/or reduce energy use in decorative hearth products and outdoor

heaters beyond baseline. This includes information on the order in which manufacturers would incorporate the different technologies to incrementally improve the efficiencies of products. DOE also requests feedback on whether the increased energy efficiency would lead to other design changes that would not occur otherwise. Furthermore, DOE is interested in information regarding any potential impact of design options on a manufacturer's ability to incorporate additional functions or attributes in response to consumer demand.

DOE also seeks input on the increase in MPC associated with incorporating each particular design option. Specifically, DOE is interested in whether and how the costs estimated for design options presented in the February 2015 NOPR have changed since the time of that analysis. DOE also requests information on the investments necessary to incorporate specific design options, including, but not limited to, costs related to new or modified tooling (if any), materials, engineering and development efforts to implement each design option, and manufacturing/production impacts.

DOE requests comment on whether certain design options may not be applicable to (or incompatible with) specific product types.

F. Markup Analysis

DOE derives consumer prices based on manufacturer markups, retailer markups, distributor markups, contractor markups (where appropriate), and sales taxes. In deriving these markups, DOE determines the major distribution channels for product sales, the markup associated with each party in each distribution channel, and the existence and magnitude of differences between markups for baseline products ("baseline markups") and higher-efficiency products ("incremental markups"). The identified distribution

channels (*i.e.*, how the products are distributed from the manufacturer to the consumer) and estimated relative sales volumes through each channel are used in generating end-user price inputs for the LCC analysis and NIA. The markups are multipliers that are applied at each stage in the distribution channel for consumer MGPs.

In its prior analysis, DOE analyzed decorative hearths and outdoor hearth products (which included outdoor fireplaces, outdoor fireplace inserts, outdoor fire pits, outdoor gas lamps, and patio heaters). (See Chapter 3 of the 2015 NOPR TSD¹⁰ for a detailed description of the products analyzed in that notice.) The same distribution channels were used for all products in the previous analysis. DOE utilized several sources including: (1) the Heating, Air-Conditioning & Refrigeration Distributors International (“HARDI”) 2013 Profit Report¹¹ to develop wholesaler mark-ups; (2) the Air Conditioning Contractors of America’s (“ACAA”) 2005 financial analysis for the heating, ventilation, air-conditioning, and refrigeration (“HVACR”) contracting industry¹² to develop mechanical contractor markups, and (3) U.S. Census Bureau 2007 Economic Census data¹³ for the residential and commercial building construction industry to develop general contractor markups. 80 FR 7082, 7100 (Feb. 9, 2015). DOE characterized two distribution channels to describe how hearth products pass from the manufacturer to consumers: (1) replacement market and (2) new construction.

The replacement market channel was characterized as:

¹⁰ Available at: www.regulations.gov/document/EERE-2014-BT-STD-0036-0002.

¹¹ Heating, Air Conditioning & Refrigeration Distributors International 2013 Profit Report (Available at: www.hardinet.org) (Last accessed March 31, 2022).

¹² Air Conditioning Contractors of America (ACCA), Financial Analysis for the HVACR Contracting Industry: 2005 (Last accessed April 10, 2013).

¹³ U.S. Census Bureau, 2007 Economic Census Data (Available at: www.census.gov/econ/) (Last accessed March 31, 2022).

Manufacturer → Wholesaler → Mechanical Contractor → Consumer

The new construction distribution channel was characterized as:

Manufacturer → Wholesaler → Mechanical Contractor → General Contractor → Consumer

Id. It is DOE's understanding that these distribution channels remain in place at the current time in essentially the same form.

For wholesalers and contractors, DOE developed baseline and incremental markups. The baseline markup relates the change in the MSP of baseline models to the change in the consumer purchase price. The incremental markup relates the change in the MSP of higher-efficiency models to the change in consumer purchase price. In addition to the markups, DOE derived State and local taxes from data provided by the Sales Tax Clearinghouse.¹⁴ DOE derived shipment-weighted-average tax values for each region considered in the analysis. *Id.* DOE plans to use the most updated versions of these data sources to develop mark-ups for consumer MGPs.

DOE did not account for the retail outlets distribution channel in which the manufacturer sells the equipment to a retailer, who in turn sells it to a mechanical contractor, who in turn sells it to the consumer. DOE did not have sufficient data to estimate a separate markup for this distribution channel. Accordingly, DOE assumed that the retailer markup was similar to the wholesaler markup.

¹⁴ Sales Tax Clearinghouse, Inc. State Sales Tax Rates Along with Combined Average City and County Rates, 2013 (Available at: <https://thestc.com/SRates.stm>) (Last accessed March 31, 2022).

DOE is also aware that there may be two additional distribution channels for hearth products: (1) an online distribution channel where manufacturers sell the products to online retailers who in turn sell them directly to consumers; and (2) a rebranding distribution channel where wholesalers or retailers negotiate good pricing from the hearth product manufacturer based on high volumes and have the product customized to carry their name, and then send it through their normal distribution channel to the contractors. The former one mainly applies to the do-it-yourself (“DIY”) installation, which was estimated at the time of the 2015 analysis to account for a very small fraction of the total hearth products shipments. For the latter one, DOE assumes that it would have the same overall markups as the conventional distribution channels. Although manufacturers may have a lower margin in such cases, wholesalers and retailers would redistribute the profit throughout the distribution channel to set the final retail price so as to be comparable with products sold through conventional distribution channels. For the reasons mentioned above, DOE did not consider any of these additional distribution channels in the February 2015 NOPR analysis.

DOE requests information on the distribution channels outlined previously, and their relevance to decorative hearths and outdoor heaters. DOE requests information on the existence of any distribution channels other than those listed above for decorative hearths and outdoor heaters. Further, DOE seeks input on the percentage of decorative hearth products and outdoor heaters being distributed through the different distribution channels, as well as whether the share of products through each channel varies based on capacity or other features.

DOE seeks updated data, if available, and recommendations regarding data sources to establish the markups for the parties involved with the distribution of consumer MGPs.

G. Energy Use Analysis

As part of the rulemaking process, DOE conducts an energy use analysis to identify how products are used by consumers to determine the annual energy consumption of these products at issue, and to assess the energy savings potential of energy efficiency improvements. In this case, the energy use analysis is expected to represent typical energy consumption of various ignition systems in the field. DOE previously developed a sample of residential homes that use a hearth product based on the 2009 Residential Energy Consumption Survey (“RECS”).¹⁵ 80 FR 7082, 7100 (Feb. 9, 2015). DOE developed ranges of operating hours from hearth product field studies.¹⁶ ¹⁷ *Id.* DOE represented different modes of consumer behavior (*i.e.*, only using the pilot light when starting the hearth product, leaving the standing pilot light on for the entirety of the heating season, or leaving the standing pilot light on year-round) with a continuous distribution of standing pilot operating hours. *Id.* The pilot light operating hours for standing pilot lights coupled with the pilot light input capacity from the engineering analysis allowed DOE to calculate the annual pilot light energy use. *Id.* (“On demand” pilot ignition systems were not separately considered in the February 2015 NOPR analysis, and DOE did not develop separate estimates for the typical operating hours of “on demand” pilot ignition systems.) DOE also calculated the electricity use of an

¹⁵ U.S. Department of Energy: Energy Information Administration, Residential Energy Consumption Survey: 2009 RECS Survey Data (2013) (Available at: www.eia.gov/consumption/residential/data/2009/) (Last accessed March 31, 2022).

¹⁶ Hayden, A.C.S. Fireplace Pilots Take Gas Use Sky High. Home Energy Magazine (Jan. 1997).(Available at: www.homeenergy.org/show/article/nav/hvac/page/28/id/1264) (Last accessed Feb. 9, 2015).

¹⁷ Menkedick, John, Pam Hartford, Shawna Collins, Shawn Shumaker, and Darlene Wells, Hearth Products Meter Study (1995–1997), Rep. no. GRI-97/0298, Gas Research Institute (1997).

intermittent pilot using the representative burner input and the average duty cycle length to calculate a number of cycles, and a conservative estimates of 30 seconds on-time per ignition. *Id.* DOE assumed a 50 watt (“W”) representative input to derive electricity consumption. *Id.*

DOE also considered the space heating impact of the pilot light in its analysis. The elimination of a pilot light would mean that the home’s main heating system would have to operate somewhat more and the air conditioning system somewhat less in cases where the pilot is on year-round. DOE based this analysis on a report from the Canadian Centre for Housing Technology.¹⁸ DOE used this study to estimate the ratio of energy consumed by the standing pilot light to the heat delivered to the conditioned space for each vented hearth product group. For unvented hearth products, DOE assumed that the majority of the heat from the pilot is input into the space. For outdoor units, none of the energy consumed by the pilot is considered useful heat. 80 FR 7082, 7101 (Feb. 9, 2015).

In 2017, the Lawrence Berkeley National Laboratory conducted a survey (“2017 Hearth Survey”) of 2,100 homes with hearth products.¹⁹ The 2017 Hearth Survey defined hearths as a gas-fired or electrical appliance that displays a flame or a flame pattern. Hearth product types are fireplaces, or fireplace inserts, gas log sets that are typically inserted into an existing empty hearth, freestanding stoves, or outdoor units.²⁰ The survey provided hearth product characteristics, usage data, and repair and

¹⁸ Armstrong M.M., Swinton, M.C. and Szadkowski, F., Assessment of the Impact of a Natural Gas Fireplace on Heating Energy Consumption and Room Temperatures at the Canadian Centre for Housing Technology (March 31, 2010) Canada Mortgage and Housing Corporation (Available at: <https://chic.cmhc-schl.gc.ca/uhtbin/cgisirsi.exe/?ps=Ey6u7UxnJz/CHIC/17510006/60/502/X>) (Last accessed Feb. 9, 2015).

¹⁹ David Siap, Henry Willem, Sarah K. Price, Hung-Chia Yang, and Alex Lekov, Survey of Hearth Products in U.S. Homes (2017) LBNL-2001030 (Available at: <https://eta-publications.lbl.gov/sites/default/files/lbnl-2001030.pdf>) (Last accessed June 6, 2022.).

²⁰ *Id.*

maintenance costs. The hearth product characteristics include the hearth product type, fuel type, ignition system type, features, venting, and installation details. The usage information includes seasonal usage of the main burner and standing pilot (if present), daily usage, and the primary utility (whether decorative or for heating). DOE plans to use this survey for the operating hours of decorative hearth products. The survey does not provide product characteristics or usage data for outdoor heaters.²¹

In the previous analysis, DOE used an input capacity of 35,000 British thermal units per hour (“Btu/h”) to represent decorative fireplace main burners and 1,000 Btu/h to represent standing pilot light input capacity, and calculated annual national intermittent ignition electricity use of a decorative fireplace to be 29 kilowatt-hours per year (“kWh/yr”). (See chapter 7 of the February 2015 NOPR TSD).²² DOE did not have separate estimates for other decorative hearth products, such as gas log sets, gas fire pits, gas stoves, or gas fireplace inserts. (*Id.*) Further, DOE used an input capacity of 50,000 Btu/h to represent the main burners of outdoor products and 1,000 Btu/h to represent the standing pilots, and calculated annual national intermittent ignition electricity use of an outdoor product to be 29 kWh/yr. (*Id.*) The outdoor product category in the 2015 NOPR included decorative products and heaters; DOE did not develop separate estimates for outdoor decorative hearths and outdoor heaters.

DOE requests comment on the national average input capacities, standing pilot input capacities, and annual intermittent ignition electricity use estimated in the February 2015 NOPR for decorative fireplace main burners and outdoor products (the outdoor

²¹ *Id.*

²² U.S. Department of Energy, Technical Support Document: Energy Conservation Programs for Consumer Products, Energy Conservation Standards for Hearth Products. Chapter 7: Energy Use Analysis (Jan. 30, 2015) (Available at: www.regulations.gov/document/EERE-2014-BT-STD-0036-0002).

product class included decorative hearths and heaters) Specifically, DOE requests comment on the applicability of these values to currently available decorative hearth products and outdoor heaters.

DOE requests comment on the typical operating hours of “on demand” pilot ignition systems, and whether the energy consumption of such ignition systems when lit is comparable to that of continuously- burning pilot lights. Specifically, DOE requests data and information about the frequency with which these systems “time-out” (*i.e.*, automatically extinguish the pilot light), the typical length of time before “time-out,” and how often these pilot lights need to be relit. DOE also requests comment on the market share of “on demand” pilot ignition systems for decorative hearth products.

DOE requests comment on the approach of using the 2017 Hearth Survey to develop the decorative hearth product characteristics and usage data to measure the energy use of standing pilot lights of decorative hearths.

DOE requests data on the breakdown of ignition types (standing pilot, on demand pilot, intermittent, and match lit) and usage data for outdoor heaters. DOE also seeks comment on whether the ignition types and usage of outdoor heaters vary significantly from outdoor decorative hearths.

H. Life-Cycle Cost and Payback Period Analysis

DOE conducts the LCC and PBP analysis to evaluate the economic effects of potential energy conservation standards for MGPs on individual consumers, which usually involves a reduction in operating cost and an increase in purchase cost. For any given efficiency level, DOE measures the PBP and the change in LCC relative to an estimated baseline level. The LCC is the total consumer expense of an appliance or

product over the life of that product, consisting of the total installed cost and operating costs (expenses for energy use, maintenance, and repair). Inputs to the calculation of total installed cost include the purchase cost of the product—which includes MSPs, distribution channel markups, and sales taxes—and installation costs. Inputs to the calculation of operating expenses include annual energy consumption, energy prices and price projections, repair and maintenance costs, equipment lifetimes, discount rates, and the year that compliance with new and amended standards is required.

1. Installation Costs

Installation costs represent the labor and materials required to install an MGP. However, in the analysis for the February 2015 NOPR, DOE assumed that because a pilot light is a component of a hearth product, the installation cost for most installations was \$0. 80 FR 7082, 7102 (Feb. 9, 2015). In a fraction of installations, the intermittent pilot could necessitate an electrical connection (although many are battery powered). For these cases, DOE used RS Means 2013 Residential Cost Data²³ to determine the material and labor costs associated with a new electrical connection and electrical grounding. *Id.* DOE plans to take this same approach, but with the most recent version of RS Means, which is currently 2021.

DOE requests comment on its approach to installation costs and the use of RS Means 2021 for labor and material costs.

²³ RS Means Company Inc., RS Means Residential Cost Data (2013) (Available at: rsmeans.reedconstructiondata.com/) (Last accessed Feb. 9, 2015).

2. Energy Prices

In the analysis for the February 2015 NOPR, DOE used data from the Energy Information Administration (“EIA”) on average prices in various States and regions²⁴ ²⁵ to assign an energy price to each house in the sample based on its location. 80 FR 7082, 7102 (Feb. 9, 2015). Average electricity prices and natural gas prices from the EIA data were adjusted using seasonal marginal price factors to derive monthly marginal electricity and natural gas prices. *Id.* Future prices were estimated using the reference case projection of the *Annual Energy Outlook* (“AEO”) 2014.²⁷ *Id.* DOE plans to use a similar approach and with updated data from the EIA and *AEO* 2022.

DOE requests comment on its approach to develop electricity and natural gas prices for consumer MGPs.

3. Repair and Maintenance Costs

Repair costs are associated with repairing or replacing components in the MGPs that have failed, whereas maintenance costs are routine annual costs associated with the continued proper operation of equipment. The 2017 Hearth Survey asked respondents about the average cost and frequency of hearth repairs and maintenance over the lifetime of the product. Repair categories included in the survey were ignition failure, controls failure, combustion damage, and other. Maintenance categories included in the survey

²⁴ U.S. Department of Energy—Energy Information Administration, Form EIA-826 Database Monthly Electric Utility Sales and Revenue Data (2013) (Available at: www.eia.doe.gov/cneaf/electricity/page/eia826.html).

²⁵ U.S. Department of Energy—Energy Information Administration, Natural Gas Navigator (2013) (Available at: tonto.eia.doe.gov/dnav/ng/ng_pri_sum_dcu_nus_m.htm).

²⁶ U.S. Department of Energy—Energy Information Administration, 2012 State Energy Consumption, Price, and Expenditure Estimates (SEDS) (2013) (Available at: www.eia.doe.gov/emeu/states/_sedes.html).

²⁷ *Annual Energy Outlook*—Energy Information Administration (2014) (Available at: www.eia.gov/outlooks/archive/aeo14/).

were chimney cleaning, firebox cleaning, exterior cleaning, and other.²⁸ DOE intends to use this data along with data from RS Means about ignition system repairs to estimate the repair and maintenance costs of MGPs. In the analysis for the February 2015 NOPR, DOE assumed that the cost of repairing an intermittent pilot was 44 percent higher than for units with standing pilots. 80 FR 7082, 7103 (Feb. 9, 2015).

DOE intends to use the same repair and maintenance categories, with the exception of chimney maintenance, for outdoor heaters.

DOE requests comment on the repair and maintenance categories included in the 2017 Hearth Survey and whether they apply to decorative hearths and outdoor heaters.

DOE requests comment on the assumption that the cost of repairing an intermittent pilot is 44 percent higher than the cost of a standing pilot repair.

DOE requests information and data on the frequency of repair and repair costs for decorative hearth heaters and outdoor heaters for the technology options listed in Table II.1 of this document. While DOE is interested in information regarding each of the listed technology options, the Department is also interested in whether consumers simply replace the products when they fail as opposed to repairing them.

4. Product Lifetime

Product lifetime is the age at which a product is retired from service. In the analysis for the February 2015 NOPR, DOE developed a hearth product survival

²⁸ David Siap, Henry Willem, Sarah K. Price, Hung-Chia Yang, and Alex Lekov, Survey of Hearth Products in U.S. Homes (2017) LBNL-2001030 (Available at: eta-publications.lbl.gov/sites/default/files/lbnl-2001030.pdf) pp. 44-46.

function, which provides a range of minimum to maximum lifetime, as well as an average lifetime. Furthermore, DOE assumed that the lifetime of the ignition device is the same as the lifetime of the hearth product. 80 FR 7082, 7103 (Feb. 9, 2015). The average lifetime was estimated to be 16 years. *Id.*

DOE requests comment on whether the average lifetime of 16 years for decorative hearth products that was used in the analysis for the February 2015 NOPR is still a valid estimate, and whether such estimate is appropriate for all MGPs.

5. No-New-Standards Case Efficiency Distribution

To estimate the share of consumers affected by a potential energy conservation standard, DOE's LCC and PBP analysis considers the projected distribution (*i.e.* market shares) of product efficiencies that consumers would be expected to purchase in the first compliance year in the base case (*i.e.* the case without new or amended energy conservation standards). DOE intends to develop the no-new-standards case efficiency distribution using data from the 2017 Hearth Survey indicate that 71 percent of decorative hearths use a standing pilot, 18 percent use intermittent ignition, and 12 percent are match lit.²⁹ The 2017 Hearth Survey did not include data specifically for outdoor heaters, but instead for all outdoor products (including decorative products and heaters). The data for outdoor products indicate that 48 percent use a standing pilot, that 15 percent use intermittent ignition, and that 37 percent are match lit.³⁰

²⁹ David Siap, Henry Willem, Sarah K. Price, Hung-Chia Yang, and Alex Lekov, Survey of Hearth Products in U.S. Homes (2017) LBNL-2001030 (Available at: eta-publications.lbl.gov/sites/default/files/lbnl-2001030.pdf) p. 48.

³⁰ *Id.*

DOE requests comment on the distribution of ignition types from the 2017 Hearth Survey, and whether such estimates remain valid.

DOE requests data on the breakdown of ignition systems for outdoor heaters, particularly the percentage of outdoor heaters that use standing pilots, intermittent ignition, and match lit.

I. Shipments Analysis

DOE typically develops shipments forecasts of a covered product as an input to calculate the national impacts of potential new or amended energy conservation standards on energy consumption, net present value (“NPV”) of consumer benefits and costs, and future manufacturer cash flows. DOE shipments projections are based on available historical data broken out by product group. Current sales estimates allow for a more accurate model that captures recent trends in the market.

In the analysis for the February 2015 NOPR, DOE relied on historical shipments data from the Hearth, Patio, and Barbeque Association (“HPBA”) and manufacturer interviews for hearth products, as shown in Table II.2 of this document. The HPBA shipments values included decorative hearth products and hearth heaters. Outdoor heater shipment estimates were based on manufacturer interviews.³¹

Table II.2 Annual Shipments for Hearth Products from the February 2015 NOPR Analysis

	2005	2006	2007	2008	2009	2010	2011	2012	2013
Shipments (millions)	1.69	1.30	1.13	0.785	0.462	0.487	0.423	0.436	0.586

³¹ See chapter 9 of the technical support document that accompanied the February 2015 NOPR. (Available at: www.regulations.gov/document/EERE-2014-BT-STD-0036-0002). (Last accessed June 6, 2022).

DOE requests annual sales data (*i.e.*, number of shipments) for decorative hearth products and outdoor heaters. If disaggregated fractions of annual sales are not available based on these classifications, DOE requests more aggregated fractions of annual sales. If available, DOE requests the annual shipments information for the years 2014 to 2021.

J. National Impact Analysis

The purpose of the NIA is to estimate the aggregate economic impacts of potential energy conservation standards at the national level. The NIA assesses the potential NES and the national NPV of total consumer costs and savings that would be expected to result from new or amended standards at specific efficiency levels over 30 years of shipments. An important component of the NIA is the trend in energy efficiency in the no-new-standards case over the 30-year analysis period. In the analysis for the February 2015 NOPR, DOE assumed a constant efficiency trend over the 30-year period. 80 FR 7082, 7104 (Feb. 9, 2015).

DOE requests data on the expected future growth trends of decorative hearth products and outdoor heaters by ignition type (standing pilot, intermittent ignition, and match lit).

K. Manufacturer Impact Analysis

The purpose of the manufacturer impact analysis (“MIA”) is to identify and quantify the estimated financial impacts of any new or amended energy conservation standards on manufacturers of consumer MGPs, and to evaluate the potential impacts of such standards on direct employment and manufacturing capacity. The MIA includes both quantitative and qualitative aspects. The quantitative part of the MIA primarily

relies on the Government Regulatory Impact Model (“GRIM”), an industry cash-flow model adapted for each product in this analysis, with the key output being industry net present value (“INPV”). The qualitative part of the MIA addresses the potential impacts of energy conservation standards on manufacturing capacity and industry competition, as well as factors such as product characteristics, impacts on particular subgroups of firms, and important market and product trends.

As part of the MIA, DOE intends to analyze impacts of potential energy conservation standards on subgroups of manufacturers of covered products, including domestic small business manufacturers. DOE uses the Small Business Administration’s (“SBA”) small business size standards to determine whether manufacturers qualify as small businesses, which are listed by the applicable North American Industry Classification System (“NAICS”) code.³² Manufacturing of outdoor heaters is classified under NAICS 333414, “Heating Equipment (except Warm Air Furnaces) Manufacturing,” and the SBA sets a threshold of 500 employees or less for a domestic entity to be considered a small business in this category. For decorative hearth products, DOE will rely on NAICS 337124, “Metal Household Furniture Manufacturing,” and the SBA sets a threshold of 750 employees or less for a domestic entity to be considered a small business in this category. These employee thresholds include all employees in a business’s parent company and any other subsidiaries.

One aspect of assessing manufacturer burden involves examining the cumulative impact of multiple DOE standards and the product-specific regulatory actions of other Federal agencies that affect the manufacturers of a covered product or equipment. While any one regulation may not impose a significant burden on manufacturers, the combined

³² Table of Size Standards -- U.S. Small Business Administration (Available at: www.sba.gov/document/support--table-size-standards) (Last accessed March 22, 2022).

effects of several existing or impending regulations may have serious consequences for some manufacturers, groups of manufacturers, or an entire industry. Assessing the impact of a single regulation may overlook this cumulative regulatory burden. In addition to energy conservation standards, other regulations can significantly affect manufacturers' financial operations. Multiple regulations affecting the same manufacturer can strain profits and lead companies to abandon product lines or markets with lower expected future returns than competing products. For these reasons, DOE conducts an analysis of cumulative regulatory burden as part of its rulemakings pertaining to appliance efficiency.

To the extent feasible, DOE seeks the names and contact information of any domestic or foreign-based manufacturers that distribute decorative hearth products and outdoor heaters in the United States.

DOE identified small businesses as a subgroup of manufacturers that could be disproportionately impacted by potential energy conservation standards for consumer MGPs. DOE requests the names and contact information of small business manufacturers, as defined by the SBA's size thresholds, that manufacture decorative hearth products and outdoor heaters in the United States. In addition, DOE requests comment on any other manufacturer subgroups that could be disproportionately impacted by potential energy conservation standards for consumer MGPs. DOE requests feedback on any potential approaches that could be considered to address impacts on such manufacturers, including small businesses.

DOE requests information regarding the cumulative regulatory burden impacts on manufacturers of decorative hearth products and outdoor heaters associated with: (1)

other DOE energy conservation standards applying to different products or equipment that these manufacturers may also make and (2) product-specific regulatory actions of other Federal agencies. DOE also requests comment on its methodology for computing cumulative regulatory burden and whether there are any flexibilities it can consider that would reduce this burden while remaining consistent with the requirements of EPCA.

III. Submission of Comments

DOE invites all interested parties to submit in writing by the date specified in the **DATES** section of this document, comments and information on matters addressed in this document and on other matters relevant to DOE's consideration of energy conservations standards for MGPs. After the close of the comment period, DOE will review the public comments received and may begin collecting data and conducting the analyses discussed in this document.

Submitting comments via www.regulations.gov. The www.regulations.gov webpage requires you to provide your name and contact information. Your contact information will be viewable to DOE Building Technologies Office staff only. Your contact information will not be publicly viewable except for your first and last names, organization name (if any), and submitter representative name (if any). If your comment is not processed properly because of technical difficulties, DOE will use this information to contact you. If DOE cannot read your comment due to technical difficulties and cannot contact you for clarification, DOE may not be able to consider your comment.

However, your contact information will be publicly viewable if you include it in the comment or in any documents attached to your comment. Any information that you do not want to be publicly viewable should not be included in your comment, nor in any

document attached to your comment. If this instruction is followed, persons viewing comments will see only first and last names, organization names, correspondence containing comments, and any documents submitted with the comments.

Do not submit to *www.regulations.gov* information for which disclosure is restricted by statute, such as trade secrets and commercial or financial information (hereinafter referred to as Confidential Business Information (“CBI”)). Comments submitted through *www.regulations.gov* cannot be claimed as CBI. Comments received through the website will waive any CBI claims for the information submitted. For information on submitting CBI, see the Confidential Business Information section.

DOE processes submissions made through *www.regulations.gov* before posting. Normally, comments will be posted within a few days of being submitted. However, if large volumes of comments are being processed simultaneously, your comment may not be viewable for up to several weeks. Please keep the comment tracking number that *www.regulations.gov* provides after you have successfully uploaded your comment.

Submitting comments via email, hand delivery/courier, or postal mail. Comments and documents submitted via email, hand delivery/courier, or postal mail also will be posted to *www.regulations.gov*. If you do not want your personal contact information to be publicly viewable, do not include it in your comment or any accompanying documents. Instead, provide your contact information in a cover letter. Include your first and last names, email address, telephone number, and optional mailing address. The cover letter will not be publicly viewable as long as it does not include any comments.

Include contact information each time you submit comments, data, documents, and other information to DOE. If you submit via postal mail or hand delivery/courier,

please provide all items on a CD, if feasible, in which case it is not necessary to submit printed copies. No telefacsimiles (faxes) will be accepted.

Comments, data, and other information submitted to DOE electronically should be provided in PDF (preferred), Microsoft Word or Excel, WordPerfect, or text (ASCII) file format. Provide documents that are not secured, written in English, and free of any defects or viruses. Documents should not contain special characters or any form of encryption, and, if possible, they should carry the electronic signature of the author.

Campaign form letters. Please submit campaign form letters by the originating organization in batches of between 50 to 500 form letters per PDF or as one form letter with a list of supporters' names compiled into one or more PDFs. This reduces comment processing and posting time.

Confidential Business Information. Pursuant to 10 CFR 1004.11, any person submitting information that he or she believes to be confidential and exempt by law from public disclosure should submit via email two well-marked copies: one copy of the document marked "confidential" including all the information believed to be confidential, and one copy of the document marked "non-confidential" with the information believed to be confidential deleted. DOE will make its own determination as to the confidential status of the information and treat it according to its determination.

It is DOE's policy that all comments may be included in the public docket, without change and as received, including any personal information provided in the comments (except information deemed to be exempt from public disclosure).

DOE considers public participation to be a very important part of the process for developing energy conservation standards. DOE actively encourages the participation and interaction of the public during the comment period in each stage of this process. Interactions with and between members of the public provide a balanced discussion of the issues and assist DOE in the process. Anyone who wishes to be added to the DOE mailing list to receive future notices and information about this process should contact Appliance and Equipment Standards Program staff at (202) 287-1445 or via e-mail at *ApplianceStandardsQuestions@ee.doe.gov*.

Signing Authority

This document of the Department of Energy was signed on June 9, 2022, by Kelly J. Speakes-Backman, Principal Deputy Assistant Secretary for Energy Efficiency and Renewable Energy, pursuant to delegated authority from the Secretary of Energy. That document with the original signature and date is maintained by DOE. For administrative purposes only, and in compliance with requirements of the Office of the Federal Register, the undersigned DOE Federal Register Liaison Officer has been authorized to sign and submit the document in electronic format for publication, as an official document of the Department of Energy. This administrative process in no way alters the legal effect of this document upon publication in the *Federal Register*.

Signed in Washington, DC, on June 9, 2022.

Treena V. Garrett
Federal Register Liaison Officer,
U.S. Department of Energy